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AUTHOR Spoto, Philip M.; And Others
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ABSTRACT

The role of depression as related to symptoms of social behavior, teacher ratings of behavior and intellectual ability was examined for 58 children (7-14 years old) with learning disabilities. Subjects were administered the Children's Depression Inventory, and those (N=16) scoring one standard deviation below the mean were designated nondepressed, while those (N=12) scoring one standard deviation above the mean were designated depressed. Additional instruments used were the Piers-Harris Children's Self-Concept Scale and the Matson Evaluation of Social Skills with Youngsters. A stepwise discriminant analysis revealed that the following 11 variables combined to yield significant discrimination between groups: age; anxiety, happiness/satisfaction, and intellectual/school status clusters; impulsive/recalcitrant, appropriate social skills, jealousy/withdrawal, and inappropriate assertiveness factors; and immaturity and disturbed peer relations and the Wechsler Intelligence Scale for Children-Revised Performance IQ. Findings supported the use of self-report measures of depression and social skills to identify behavior problems and underlined the importance of considering the possibility that depression contributes to or produces academic underachievement. (CL)

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Predictors of Depression

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Self-Concept, Social Skills, and Teacher Ratings of
Behavior as Predictors of Depression in
Learning Disabled Children

Philip M. Spoto, Larry J. Gates, and Ron P. Edwards
University of southern Mississippi

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Abstract

The present investigation sought to determine the role of depression as related to symptoms of social behavior, teacher ratings of behavior and intellectual ability in a sample of learning disabled children ranging in age from 7 to 14. Fifty-eight children were administered the Children's Depression Inventory (CDI). Children scoring 1 standard deviation below the mean ($N=16$) were designated as nondepressed while those scoring 1 standard deviation above the mean were designated depressed ($N=12$). On the basis of a stepwise discriminant analysis, 11 variables combined to yield a significant discrimination between the groups. This analysis resulted in a canonical correlation of 0.96 between discriminant function and group membership which accounted for 92.5% of the variance and an overall classification accuracy of 100%. Results are discussed in terms of the importance of routine assessment of social-emotional problems for children referred for academic related problems.

Self-Concept, Social Skills, and Teacher Ratings of
Behavior as Predictors of Depression in
Learning Disabled Children

Past researchers have proposed that childhood and adult depression have a number of similarities in common and that a useful starting point for researching etiological factors in childhood depression should involve application of theoretical models of adult depression to the childhood disorder (e.g. Cantwell & Garber, 1979; Clarizo, 1984; Kashani et al., 1981; Kovacs & Beck, 1977; Leon, Kendall & Garber, 1980). Recent studies towards this trend have provided support for cognitive (e.g. Kaslow et al., 1983; Sacco & Graves, 1984) and interpersonal theories (Helsel & Matson, 1984).

Previous investigators have demonstrated that several groups of children are more likely to demonstrate depressive symptomology. Children with Attentional Deficit Syndrome with Hyperactivity (APA, 1980) comprise one group of children likely to be labeled high-risk for childhood depression (Poznanski, 1980/81; Weinberg & Brumback, 1976). Children classified as learning disabled are another group likely to express depressive symptomology (Black, 1974; Brumback, Jackoway, & Weinberg, 1980). Researchers have also found poor self-concept to be characteristic of learning disabled students (e.g., Russell, 1974; Siegel, 1974; Moss & Skelton, 1976; Alley & Deshler, 1979).

Knowledge that learning disabled children may be at risk for depression, lower self-concepts and inadequate social skills, calls attention to the importance of ruling out depression and addressing social skills deficits before classifying a child as learning disabled. The present investigation involved comparison of self-report measures of social skills and self-concept as well as intellectual ability and teacher ratings of behavior as predictors of depression in a sample of learning disabled children.

Method

Sample Selection

Fifty-eight elementary school children (37 boys and 21 girls) representing grades four through six in six public elementary schools in South Mississippi served as subjects. All children were between 7 and 14 years of age ($M=11.8$). All children in the study were classified as learning disabled in accordance with Mississippi State Board of Education standards and regulations regarding services to exceptional students. These standards require that a student demonstrate a 15 point discrepancy between the highest and lowest achievement score.

Procedure And Measures

Student participation for the study was obtained through parental permission. Children participating in the

study were administered the Children's Depression Inventory (CDI; Kovacs, 1982). The CDI is a self-report inventory containing 27 items, consisting of three statements graded in severity from 0 to 2. A total score is obtained by summing the points associated with each item. Total scores can range from 0 to 54. The CDI has been found to have favorable psychometric properties (see Smucker, Craighead, Craighead, & Green, 1986). Children also completed the Piers-Harris Children's Self-Concept Scale (P-H; Piers & Harris, 1969) and the Matson Evaluation of Social Skills with Youngsters (MESSY; Matson, Rotatori, & Helsel, 1983). The MESSY is an unpublished 62 item self-report scale designed to assess social behavior in children. The scale yields scores on five factors: Appropriate Social Skills, Inappropriate Assertiveness, Impulsive/Recalcitrant, Overconfident, and Jealousy/Withdrawal. Internal consistency inter-item reliability is reported as 0.95 (Matson, Macklin, & Helsel, 1985).

Items on all instruments were read aloud to the children in groups of two or three in order to ensure comprehension of the items and various response alternatives. Instruments were administered in a counterbalanced order across all subjects. Completion of the instruments required 35 to 45 minutes. At the end of all testing, each child's teacher was asked to complete the Walker Problem Behavior Identification Checklist (WPBIC; Walker, 1976). The WPBIC

is a 50-item inventory consisting of behavioral statements which are applied to the child being rated. The scale provides a total score as well as scores for the following five scales: Acting-Out, Withdrawal, Distractibility, Disturbed Peer Relations, and Immaturity. Studies conducted to date suggest reasonable reliability and validity (e.g., Bolstad & Johnson, 1977; Spivak & Swift, 1973). The most recent Verbal, Performance and Full Scale WISC-R IQ score were obtained for each student from the child's special education file.

Statistical Analysis

Subjects were assigned to either the depressed or nondepressed group on the basis of their score on the CDI (scores of 5 and below designated nondepressed; 16 and above designated depressed). Use of these cutoff scores corresponds to Smucker's et al., 1986 normative study on the CDI in which samples yielded a mean of 9.09 and a standard deviation of 7.04. Use of these criteria resulted in 16 subjects being designated as nondepressed $M=3.06$ and 12 being designated as depressed $M=22.08$. The following variables were included in the analysis: Age; Verbal, Performance, and Full Scale IQ's on the WISC-R; as well as Factor/cluster scores obtained on the MESSY, the P-H, and the WPBIC.

Results

Means and standard deviations obtained on the administered instruments according to group (e.g. depressed, nondepressed) are presented in Table 1. On the basis of the stepwise discriminant analysis, eleven variables combined to yield a significant discrimination between groups, $F(11,16) = 17.88$, $p(<.001)$. Table 2 presents the F values and Wilks Lambda at each step of the analysis.

This analysis revealed a canonical correlation of 0.96 between discriminant function and group membership which accounted for 92.5% of the variance. The Wilk's Lambda of .075 was significant ($\chi^2(11) = 53.01$, $p(<.001)$). Results of the classification analysis (Table 3) indicated that all of the subjects originally classified as depressed and nondepressed were accurately classified on the basis of the variables entered into the analysis thus yielding an overall classification accuracy of 100%.

Insert Tables 1,2, and 3 about here.

Discussion

The major finding of this investigation was that the eleven variables consisting of Age; Anxiety, Happiness/Satisfaction, and Intellectual/School Status clusters of the P-H; Impulsive/Recalcitrant, Appropriate

Social Skills, Jealousy/Withdrawal, and Inappropriate Assertiveness factors of the MESSY; Immaturity and Disturbed Peer Relations factor of the WPBIC and WISC-R Performance IQ accounted for 92.5% of the variance and successfully classified all subjects. The best predictor of group membership between depressed and nondepressed subjects was the Anxiety cluster of the P-H, $F(1,26) = 53.46$, $p < .001$ which was significant prior to being included in the analysis. These results correspond to previous childhood depression literature which has demonstrated a relationship between depression and the psychological variable of anxiety (e.g. Leon, et al., 1980; Pfouts, 1982; Tesiny & Lefkowitz, 1982).

The Impulsive/Recalcitrant factor of the MESSY along with subject age, both of which were significant prior to being included in the analysis, were found to have more predictive power in combination and accounted for 77% of the variance along with the Anxiety cluster of the P-H. The remaining eight variables resulted in a 15% increase in variance accounted for.

Findings of this investigation support the use of self-report measures of depression and social skills as a means of identifying behavior problems and stress the importance of routinely addressing the social-emotional

dimension of children referred for learning difficulties in order to rule out the possibility of depression contributing to or producing academic underachievement. Acting-out and aggressive behavior are the most frequent cause of referral for learning problems and since these behaviors have been associated with depression in children (Toolan, 1962; Weinberg et al. 1973), there is an increased possibility that referred children may be misclassified as learning disabled when in fact they may be demonstrating depressive symptomology (Colbert, Newman, Ney & Young, 1982).

Further investigation into the uses and development of multiple assessment instruments in the evaluation of depressive and social behaviors in children is warranted. Additional research investigating the role of depression in academic achievement and intellectual functioning is also indicated.

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Table 1.

Means and Standard Deviations on Administered Self-Report
Measures for Depressed (N=12) and nondepressed (N=16)

Appropriate Social Skills (MESSY)	72.00	17.15	83.81	15.56
Inappropriate Assestiveness MESSY)	40.83	15.77	31.68	8.81
Impulsive/Recalcitrant (MESSY)	14.25	6.41	9.88	2.41
Overconfident (MESSY)	11.83	5.39	9.19	2.95
Jealousy/Withdrawal (MESSY)	10.67	3.53	6.50	2.85
Behavior (P-H)	9.67	3.28	12.44	2.43
Intellectual/School Status (P-H)	9.58	3.98	13.38	2.66
Physical Appearance/Attributes (P-H)	7.00	3.57	9.88	2.45
Anxiety (P-H)	5.92	2.35	11.63	1.78
Popularity (P-H)	6.42	2.07	9.63	1.63
Happiness/Satisfaction (P-H)	6.08	2.19	8.94	1.65
Total Score (P-H)	44.67	13.09	66.00	10.03
Acting-Out (WPIBC)	3.58	4.99	3.56	5.96
Withdrawal (WPBIC)	.75	1.76	.19	.75
Distractibility (WPBIC)	3.08	3.12	3.06	3.02
Disturbed Peer Relations (WPBIC)	.67	2.02	.69	1.49
Immaturity (WPBIC)	1.75	3.14	1.06	2.27

Table continues

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Scale	Depressed		Nondepressed	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Total Scale Score (WPIBC)	9.83	10.44	8.56	9.72
Verbal IQ (WISC-R)	78.92	16.64	89.06	13.61
Performance IQ (WISC-R)	79.00	13.98	85.88	20.31
Full Scale IQ (WISC-R)	77.00	15.97	85.65	15.68

Table 2.

Results of Stepwise Discriminant Analysis

Step	Variable	E to Enter	df	Overall E	df Wilks Lambda	
1	Anxiety (P-H)	53.46**	1,26	53.46**	1,26	.327
2	Impulsive/Recalcitrant (MESSY)	5.01*	1,25	33.36**	2,25	.273
3	Age	4.27*	1,24	26.57**	3,24	.231
4	Performance (WISC-R)	2.47	1,23	21.70**	4,23	.209
5	Happiness/Satisfaction (P-H)	2.22	1,22	18.73**	5,22	.190
6	Appropriate Social Skill (MESSY)	2.50	1,21	17.09**	6,21	.170
7	Jealously/Withdrawal (MESSY)	2.88	1,20	16.37**	7,20	.149
8	Intellectual/School Status (P-H)	6.78*	1,19	19.30**	8,19	.110
9	Immaturity (WPIBC)	3.38	1,18	19.68**	9,18	.092
10	Disturbed Peer Relation (WPBIC)	2.45	1,17	19.39**	10,17	.081
11	Inappropriate Assertive. (MESSY)	1.12	1,16	17.86**	11,16	.075

*p (.05

**p (.001

Table 3.

Discriminant Classification Table

Actual Group	<u>N</u>	Predicted Group	
		Depressed	Nondepressed
Depressed	12	12 100.0%	0 .0%
Nondepressed	16	0 .0%	16 100.0%